Eye of the Beholder

Transparent AI Pipelines for Information Quality Prediction

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The Misinformation Problem

Misinformation spreads, harming society.

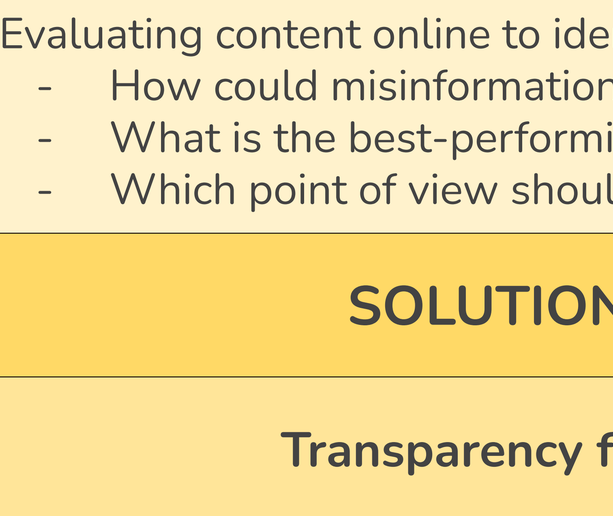
Evaluating content online to identify misinformation is challenging.

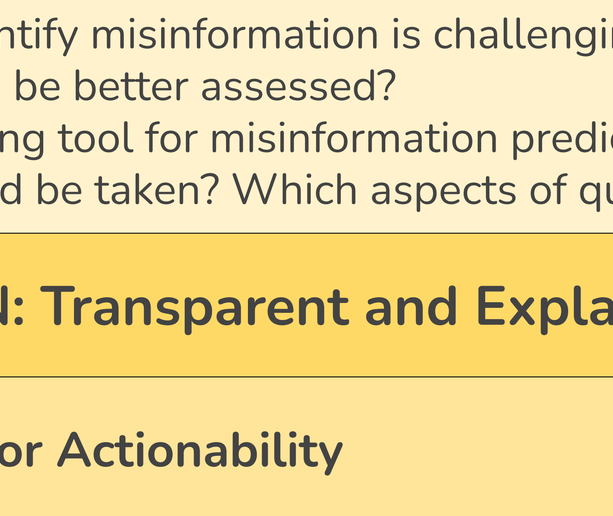
- How could misinformation be better assessed?
- What is the best-performing tool for misinformation prediction?
- Which point of view should be taken? Which aspects of quality should be considered?

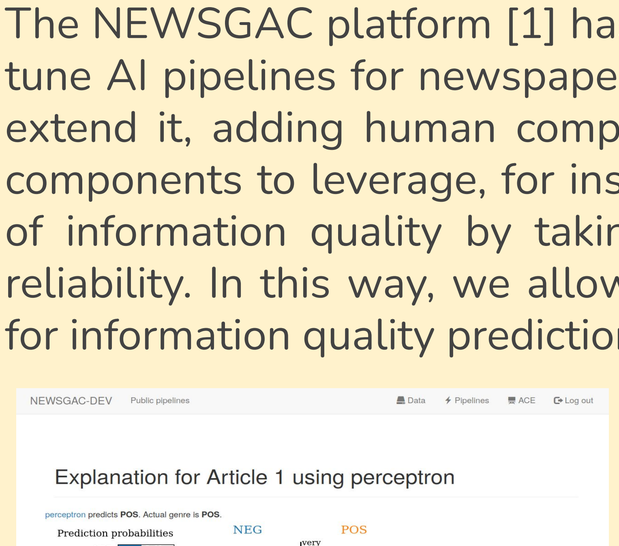
SOLUTION: Transparent and Explainable Information Quality Prediction

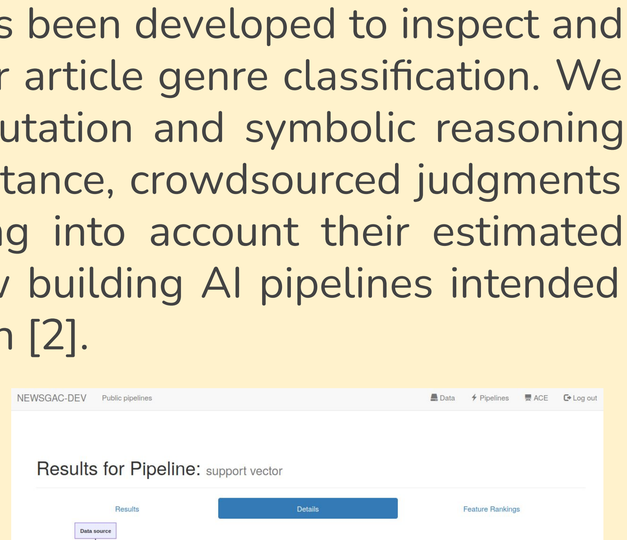
Transparency for Actionability

The NEWSGAC platform [1] has been developed to inspect and tune AI pipelines for newspaper article genre classification. We extend it, adding human computation and symbolic reasoning components to leverage, for instance, crowdsourced judgments of information quality by taking into account their estimated reliability. In this way, we allow building AI pipelines intended for information quality prediction [2].



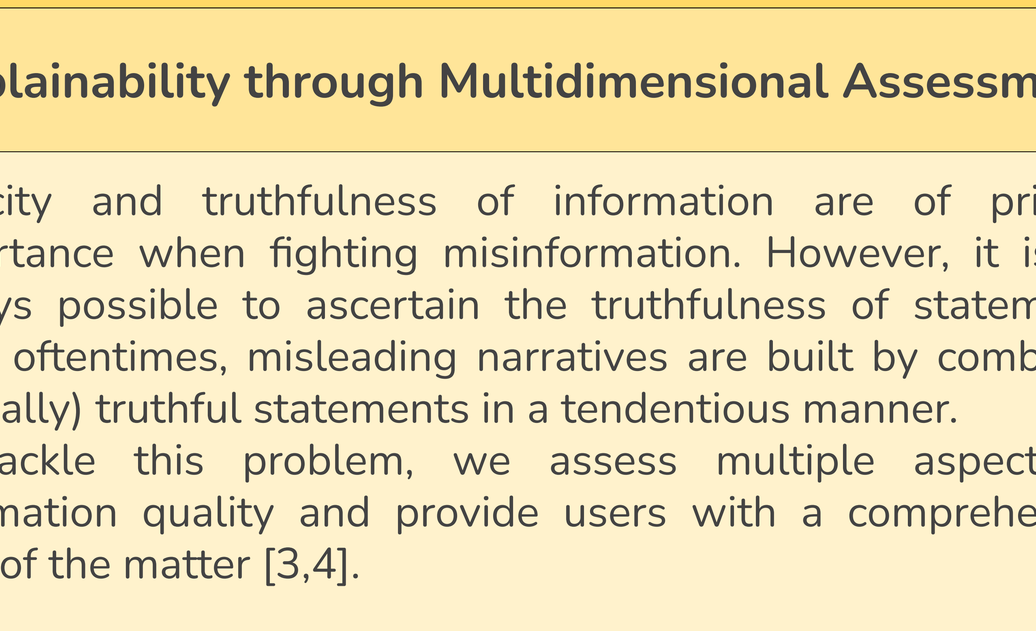






Explainability through Multidimensional Assessment

Veracity and truthfulness of information are of primary importance when fighting misinformation. However, it is not always possible to ascertain the truthfulness of statements. Also, oftentimes, misleading narratives are built by combining (partially) truthful statements in a tendentious manner.
To tackle this problem, we assess multiple aspects of information quality and provide users with a comprehensive view of the matter [3,4].



References

[1] Bilgin, A., Sang, E.T.K., Smeenk, K., Hollink, L., Van Ossenbruggen, J., Harbers, F. and Broersma, M., 2018, October. Utilizing a transparency-driven environment toward trusted automatic genre classification: A case study in journalism history. In 2018 IEEE 14th International Conference on e-Science (e-Science): 486-496. IEEE.
[2] D. Ceolin, G. Primiero, J. Wielemaker, M. Soprano: Assessing the Quality of Online Reviews Using Formal Argumentation Theory. International Conference on Web Engineering (ICWE) 2021: 71-87. Springer.
[3] M. Soprano, K. Roitero, D. La Barbera, D. Ceolin, D. Spina, S. Mizzaro, G. Demartini: The many dimensions of truthfulness: Crowdsourcing misinformation assessments on a multidimensional scale. Information Processing and Management 58(6): 102710 (2021) Elsevier.
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